

REMARKS

This Amendment is filed in response to the Office Action mailed on September 20, 2005. All objections and rejections are respectfully traversed.

Claims 1 to 20 are in the application and currently pending.

At paragraphs 4-5 of the Office Action, claims 1, 3, and 5-20 were rejected under 35 U.S.C. §103 as being unpatentable in view of Lyon et al., US Patent No. 6,333,917, Issued on December 25, 2001, hereinafter Lyon, over Bonomi et al., US Patent No. 6,069,872, Issued on May 30, 2000, hereinafter Bonomi.

The present invention, as set forth in representative claim 1, comprises in part:

1. A switch for a computer network, the switch receiving ATM cells from the computer network, comprising:
a switching fabric receiving a cell at an input port, ***said switching fabric selecting a route there-through for said cell to an output port;***
at least one queue within said switching fabric, said queue having an associated threshold, said switching fabric determining the number of cells present in said queue, ***said switching fabric determining if the next arriving cell for said at least one queue fills said queue above said threshold, and in the event that said at least one queue is filled above said threshold, then writing a flag bit within said cell to a "set" state; and***
a traffic manager to compute a ratio of cells having said flag bit set to a total number of cells received at an output port, and in response to a value of said ratio either discarding said cell or forwarding said cell onto an output link of said computer network, said discarding step selecting a cell to be discarded on a random basis.

By way of background, Lyon discloses enhanced random early detection (RED+) systems and uses of the systems within a switching fabric and linecards. Lyon reduces

the delay in notifying a transmitting source to slow its transmission rate by tagging (or dropping) a packet as it leaves the queue (on dequeue) when the system detects a congested condition. The packets that are tagged are the packets immediately leaving the queue at the time the system detects the congestion. These packets are tagged according to a tagging period or rate, which is predefined within the system. The tagged packets are marked by setting the Explicit Forward Congestion Indication Bit (EFCI bit). Tagging the packets allows the destination to notify the source to slow the transmission rate from the source to the destination.

Bonomi describes a congestion control system based on rate and queue length to achieve a stable ATM network.

Applicant respectfully urges that Lyon and Bonomi taken alone or in combination do not teach, disclose, or suggest Applicant's claimed novel *said switching fabric selecting a route there-through for said cell to an output port ... said switching fabric determining if the next arriving cell for said at least one queue fills said queue above said threshold, and in the event that said at least one queue is filled above said threshold, then writing a flag bit within said cell to a "set" state ...a traffic manager to compute a ratio of cells having said flag bit set to a total number of cells received at an output port, and in response to a value of said ratio either discarding said cell or forwarding said cell onto an output link of said computer network, said discarding step selecting a cell to be discarded on a random basis.*

In further detail, in Applicant's claimed invention, each cell is identified by *writing a flag bit within said cell to a "set" state* when any queue is *filled above said threshold*. Additionally, the traffic manager computes *a ratio of cells having said flag bit set to a total number of cells received at an output port*, which allows for determin-

ing the ratio on the fly. The ratio is used with the red algorithm, where the red algorithm determines whether a cell is to be discarded or sent.

In sharp contrast, Lyon only describes marking certain packets to control the source station, which is completely different from Applicant's claimed invention. Additionally, Lyon uses set rates for determining which packets to mark. Lyon is totally silent on determining on the fly rate for discarding packets. Additionally, Bonomi does not describe using *a traffic manager to compute a ratio of cells having said flag bit set to a total number of cells received at an output port, and in response to a value of said ratio either discarding said cell or forwarding said cell onto an output link of said computer network, said discarding step selecting a cell to be discarded on a random basis*, and therefore there is no suggestion to combine Bonomi and Lyon to create a system using a traffic manager to determine an on the fly rate of packets to be dropped.

Furthermore, even if Lyon and Bonomi were combined, the combination would teach away from Applicant's claimed invention. Combining Bonomi and Lyon would only result in a single system of queuing with a set rate for marking packets that go to multiple output links. There is no teaching or suggestion in Bonomi or Lyon of using multiple queues and a traffic manager determining an on the fly rate for dropping packets.

Accordingly, Applicant respectfully urges that the Lyon patent and the Bonomi patent, either taken singly or in any combination, are legally insufficient to render the presently claimed invention obvious under 35 U.S.C. §103 because of the absence in each of the cited patents of Applicant's claimed novel *said switching fabric selecting a route*

there-through for said cell to an output port ... said switching fabric determining if the next arriving cell for said at least one queue fills said queue above said threshold, and in the event that said at least one queue is filled above said threshold, then writing a flag bit within said cell to a "set" state ...a traffic manager to compute a ratio of cells having said flag bit set to a total number of cells received at an output port, and in response to a value of said ratio either discarding said cell or forwarding said cell onto an output link of said computer network, said discarding step selecting a cell to be discarded on a random basis.

At paragraph 6 of the Office Action, claims 2 and 4 were rejected under 35 U.S.C. §103 as being unpatentable over Lyon in view of Bonomi, and in further view of “The Admitted Prior Art.”

Applicant respectfully notes that claims 2 and 4 are dependent claims that depend from independent claims, which are believed to be in condition for allowance. Accordingly, claims 2 and 4 are believed to be in condition for allowance.

All independent claims are believed to be in condition for allowance.

All dependent claims are believed to be dependent from allowable independent claims, and therefore in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account

No. 03-1237.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Shannen C. Delaney", written over a horizontal line.

Shannen C. Delaney

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